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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/756,098	01/12/2004	Alan E. Waltho	P17915X	2964
25694	7590	05/03/2006	EXAMINER	
INTEL CORPORATION P.O. BOX 5326 SANTA CLARA, CA 95056-5326			A, MINH D	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/756,098

Applicant(s)

WALTHO, ALAN E.

Examiner

Minh D. A

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/1/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-28 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/10/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 7 is objected to because of the following informalities:

Claim 7, line 1, "of claim 7" should be changed to – of claim 1---???. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 11-12, 14-15 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by McKinzie, III et al (US 6,690,327).

Regarding claim 1, McKinzie discloses an apparatus comprising:

a very high frequency (VHF) antenna; and a frequency selective surface (FSS(700)) structure adjacent to the VHF antenna, wherein the FSS structure (700) includes: a ground plane (14); a first conductive (12) via coupled to the ground plane (14); and a first conductive plate (12) coupled to the first conductive (18) via, wherein the FSS structure (10) has a band gap frequency in the VHF band and a dielectric material between the first conductive plate and the ground plane, wherein the first conductive

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plate is formed overlying a first surface of the dielectric material and the ground plane is formed overlying a second surface of the dielectric material; and a print inductor overlying the first surface of the dielectric material and coupled to the conductive plate and the first conductive via. See figures 4-9, col.4, lines 15-67 to col.10, lines 1-63.

Regarding claim 11, McKinzie discloses wherein the first conductive plate is substantially square-shaped, rectangular, triangular, hexagonal, or circular. See figures 4-6.

Regarding claims 12 and 17, McKinzie discloses an apparatus, comprising'. a very high frequency (VHF) antenna; and a frequency selective surface (FSS) structure adjacent to the VHF antenna and tuned to the operating frequency of the VHF antenna, wherein the FSS structure includes a conductive back plane; a conductive column coupled to the conductive back plane and a conductive pad coupled to the conductive column, wherein the thickness of the FSS structure and the surface area of the conductive pad are sized to suppress radio frequency (RF) surface currents in the VHF band from propagating along the conductive back plane. See figures 4-9, col.4, lines 15-67 to col.10, lines 1-63.

Regarding claims 14-15, McKinzie discloses the first printed inductor and the first conductive plate are formed by patterning a single layers of conductive material. See figures 4-9.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-5, 8-10, 13, 16, 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over by McKinzie, III et al (US 6,690,327) in view of Lynch et al (US 2004/0075617A1).

Regarding claims 2-5, 8-10, 13, 16, 18, McKinzie, III discloses the claimed of invention except wherein the band gap frequency of the FSS structure ranges from about 108 MHz to about 118 MHz or range about 118 MHz to about 137 MHz or 113 MHz or about 127 MHz or the FSS structure has a thickness ranging from about 0.5 centimeters (cm) to about 1.3 cm or a ranging from about 0.5 centimeters (cm) to about 1.3 cm and a diameter of about 0.16 cm. the first conductive plate has a thickness of about 0.005 cm or a length of about 3.8 cm, and a width of about 3.8 cm. However, Lynch discloses all limitations recited in figure 2d, col.2, lines [0026] to [0027]. It would have been an obvious matter of design choice to employ a different frequency or different thickness and diameter such as suggest of Lynch in the FSS structure of McKinzie to provide the range of band gap frequency and the range of thickness since it capable to providing a high impedance surface for transmitter and receiver that are coupled to the antenna.

Regarding claim 19, McKinzie discloses the claimed invention except for a dielectric material includes an ionizing particles. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ an ionizing

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particles, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

Allowable Subject Matter

6. Claims 21-28 are and claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Prior art does not teach that, a dielectric material includes ionizing particles and wherein a wireless receiver coupled to receive the RF signals from the aircraft antenna and wherein the receiver is part of an aircraft very high frequency communication system recited in depend claims 7 and 24.

Prior art does not teach that, an aircraft antenna coupled to receive radio frequency (RF) signals and a frequency selective surface (FSS) structure adjacent to the aircraft antenna that includes: a ground plane; a conductive via coupled to the ground plane', and a conductive plate coupled to the conductive via ea carrier frequency ranging from about 118 megahertz (MHz) to about 137 MHz in combination with all limitation recited in independent claims 21 and 25.

Citation of relevant prior art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. McKinzie III (US 2002/0167456) and Wilhelm et al. (US 2003/0142036) are cited to show a FSS structure for band gap frequency.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Dieu A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 AM-2:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'Tuyet Vo', with a stylized, cursive script.

**TUYET VO
PRIMARY EXAMINER**

Examiner

Minh A

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5/1/06